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Gender Differences in Oncologic Outcomes of Patients Undergoing Partial Cystectomy with Median Follow-up of 5 Years

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Partial cystectomy (PC) is a bladder-sparing alternative to radical cystectomy (RC) that can be safely employed in select patients. One indication for cystectomy is urothelial carcinoma. Although urothelial carcinoma has a lower incidence in females than males, women experience more advanced-stage tumors at presentation and higher mortality. These sex-specific relationships have not been fully elucidated. Our aim was to define the long-term oncologic outcomes for patients undergoing PC for a variety of indications. A multi-surgeon retrospective review of patients undergoing PC stratified by approach (open vs. laparoscopic vs. robotic) from 2008 to 2019 was conducted. Univariate analysis of pre- and peri-operative factors as well as hazard regression models and Kaplan–Meier survival curves for overall and recurrence-free survival were constructed. 30 patients with mean age of 65.9 ± 13.4 and BMI 28.0 ± 6.5 were identified; females (n=7) and males (n=23) did not have statistically significant differences in these baseline characteristics (p-value > 0.05). Robotic approach was employed most often for both sexes (71.4% female, 56.5% male) with laparoscopic (0% female, 4.3% male) and open (28.6% female, 39.1% male) approaches less frequently utilized. More women had an ASA ≥ 3 , 85.7% versus 77.3% for men. 6 of 7 women underwent PC for oncologic diagnoses versus 18 of 23 men. Approximately equal percentage of cases were attributed to urothelial carcinoma, 50.0% and 55.6%, respectively. Of all oncologic cases, 66.7% of women and 61.1% of men had a pathologic grade greater than or equal to T2 at time of surgery. A total of 4 patients, 1 woman and 3 men, underwent RC after PC at a median of 32 months. For the total population, median overall-survival was not reached at a median follow-up of 63.3 months with a median recurrence-free survival of 33.9 months. The median survival from date of surgery for oncologic cases was 88 months versus 44.5 months for women and men, respectively. Patients >70 years old exhibited inferior overall-survival with a hazard ratio of 4.71 (1.26-17.66), $p \leq 0.05$. In the population that underwent PC, women and men had similar baseline and oncologic characteristics including the percent of oncologic cases that comprised of urothelial carcinoma and pathologic grade greater than T2. Median survival from surgery was almost twice as long for women than men. The non-modifiable risk factor significant to overall-survival of age <70 years old is not specifically related to surgical technique. As candidacy for PC is selective and not suitable for advanced disease, this may explain the fewer number of women in our population. PC is a potentially underutilized modality for bladder pathology. Shared decision making is imperative as strict adherence to post-PC surveillance is critical. Given the positive long-term outcomes in the female cohort, sex may be a factor to consider when determining whether PC may be a valid alternative to RC.

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